## For the Zebra *S*400™ and *S*600™ Printers

Customer order # 44885L
Manufacturer part # 44885LB Rev. 2

# User's Guide

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- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different than that to which the receiver is connected.
- Consult the dealer or an experienced Radio/TV technician for help.

**NOTE:** This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to insure compliance.

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Stripe® Series
*S*400 and *S*600

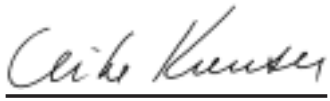
manufactured by:

**Zebra Technologies Corporation**
333 Corporate Woods Parkway
Vernon Hills, Illinois 60061-3109 U.S.A.

have been shown to comply with the applicable technical standards of the FCC

for Home, Office, Commercial, and Industrial use

if no unauthorized change is made in the equipment,
and if the equipment is properly maintained and operated.



Stripe®

# Contents

## *Introduction*


Unpacking . . . . . 1
Reporting Damage. . . . . 1
Site Requirements . . . . . 2
Introduction to Printers . . . . . 2
  Tear-Off Mode . . . . . 2
  Peel-Off Mode . . . . . 3
  Cutter Mode. . . . . 3
Printer Overview . . . . . 4


## *Getting Ready to Print*


AC Power Cable. . . . . 5
Loading the Media . . . . . 7
  Tear-Off Mode . . . . . 7
    Roll Media . . . . . 7
    Fanfold Media . . . . . 8
  Peel-Off Mode . . . . . 9
    Removing the Label Backing Material . . . . . 10
  Cutter Mode . . . . . 11
Loading the Ribbon . . . . . 12
  Ribbon Supply Spindle: Normal Position . . . . . 12
  Ribbon Supply Spindle: Low-Tension Position . . . . . 12
  Ribbon Loading Instructions . . . . . 13
Ribbon Removal . . . . . 14
Adjusting the Media Sensor . . . . . 15
  Non-Continuous Media . . . . . 15
  Continuous Media . . . . . 15
Auto Calibration . . . . . 16
Operator Controls . . . . . 16
  Front Panel Buttons . . . . . 16
  Front Panel LEDs . . . . . 17
AC Power ON/OFF Switch . . . . . 18

Printing a Test Label . . . . . 18
Connecting the Printer and Computer . . . . . 18
RS-232 Interface Requirements . . . . . 18
Parallel Interface Requirements . . . . . 19
Serial and Parallel Cabling Requirements . . . . . 19
Communicating with the Printer . . . . . 19
Via the Parallel Port . . . . . 19
Via the Serial Port . . . . . 19
Defaulting the Printer . . . . . 19
Autobaud. . . . . 20
^SC Command . . . . . 20
Setting Up the Software . . . . . 20

## *Routine Care and Adjustments*

Cleaning . . . . . 21
Cleaning the Exterior . . . . . 23
Cleaning the Interior . . . . . 23
Cleaning the Printhead and Platen Roller . . . . . 23
Cleaning the Cutter Module . . . . . 24
Lubrication . . . . . 30
AC Power Fuse Replacement . . . . . 30
Mechanical Adjustments . . . . . 31
Print Quality Adjustments . . . . . 31
Toggle Pressure Adjustment . . . . . 31
Media Rest Position Adjustment . . . . . 33
Top of the Label Position Adjustment . . . . . 33
Media Sensor Position Adjustment . . . . . 33
Ribbon Supply Spindle Adjustment . . . . . 33
Backing Rewind Power Roller Adjustment . . . . . 34

## *Troubleshooting*

Troubleshooting Table . . . . . 37
Printer Status Sensors . . . . . 43
Manual Calibration. . . . . 45
Resetting Printer Parameters . . . . . 46

Resetting Factory Defaults . . . . . 46
Resetting Communications Parameters . . . . . 46
Resetting Ribbon Parameters . . . . . 46
Printer Diagnostics . . . . . 47
Power-On Self Test . . . . . 47
Additional Printer Self Tests . . . . . 47
CANCEL Key Self Test . . . . . 48
PAUSE Key Self Test . . . . . 49
FEED Key Self Test . . . . . 50
MODE Key Self Test . . . . . 51

***Specifications***

General Specifications . . . . . 53
Printing Specifications . . . . . 54
Ribbon Specifications . . . . . 54
Media Specifications . . . . . 55
Media Handling . . . . . 55
Options . . . . . 56
Zebra Programming Language (ZPL II®) . . . . . 56
Bar Codes . . . . . 57
Standard Printer Fonts . . . . . 57
Optional Printer Fonts . . . . . 57

***Appendix***

RS-232 Connector Technical Information . . . . . 59
Interconnecting to DTE Devices . . . . . 59
Interconnecting to DCE Devices . . . . . 59
Parallel Interface Technical Information . . . . . 61
Storage and Reshipping . . . . . 62

***Glossary***

***Index***

Stripe®

# *Introduction*

Congratulations! You have just purchased a high-quality thermal label printer manufactured by the industry leader in quality, service, and value. For over 25 years, Zebra Technologies Corporation has provided customers with the highest caliber of products and support.

- This user's guide provides all the information you will need to operate the printer on a daily basis.
- ZPL II® is Zebra Technologies Corporation's Zebra Programming Language II label design language. ZPL II lets you create a wide variety of labels from the simple to the very complex, including text, bar codes, and graphics. To create and print label formats, refer to the *ZPL II Programming Guide* (part #46469L). If one was not ordered with your printer, simply call your distributor or Zebra Technologies Corporation.
- In addition, label preparation software is available. Contact your distributor or Zebra Technologies Corporation for further information. Or, visit our web site for a free demo copy.
- The *S*400/*S*600 Maintenance Manual (part #44895L) contains all the information you will need to maintain your printer. To order, contact your distributor or Zebra Technologies Corporation.

## Unpacking

Save the carton and all packing materials in case reshipping is required.

Inspect the printer for possible shipping damage.

- Check all exterior surfaces for damage.
- Raise the media access cover (refer to Figure 4) and inspect the media compartment for damage.

## Reporting Damage

If you discover shipping damage:

- Immediately notify and file a damage report with the shipping company. *Zebra Technologies Corporation is not responsible for any damage incurred during shipment of the printer and will not cover the repair of this damage under its warranty policy*.
- Keep the carton and all packing material for inspection.
- Notify your authorized Zebra distributor.

For storage and reshipping information, refer to the *Appendix*.

## Site Requirements

***CAUTION: To insure that the printer has proper ventilation and cooling, do not place any padding or cushioning material under the unit, because this restricts air flow.***

This printer may be installed on any solid, level surface of sufficient size and strength to accommodate the physical dimensions and weight of the unit. The area enclosure in which the printer will operate must meet the environmental conditions specified. Electrical power must be available and in close proximity to the printer.

Since this printer was designed and is fabricated as an industrial-type unit, it will function satisfactorily in areas such as warehouses, factory floors, and office environments that conform to specified environmental and electrical conditions.

## Introduction to Printers

The first thing you want to do is *identify your printer*. This makes certain tasks -- such as media loading -- much easier to do!

If your printer looks like this (Figure 1), it is set up for Tear-Off mode. Tear-Off allows you to tear away each label, or a strip of labels, after it is printed.

To load media, refer to "Loading the Media -- Tear-Off Mode" in *Getting Ready to Print*.

**Figure 1**

**Figure 2**

This printer (Figure 2) operates in Peel-Off mode. In Peel-Off, backing material is peeled away from the label as it is printed. After this label is removed from the printer, the next one is printed.

To load media, refer to "Loading the Media -- Peel-Off Mode" in *Getting Ready to Print*.

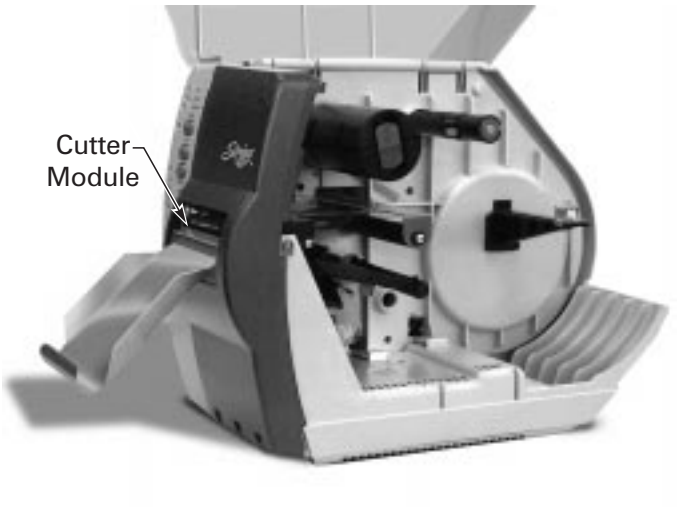
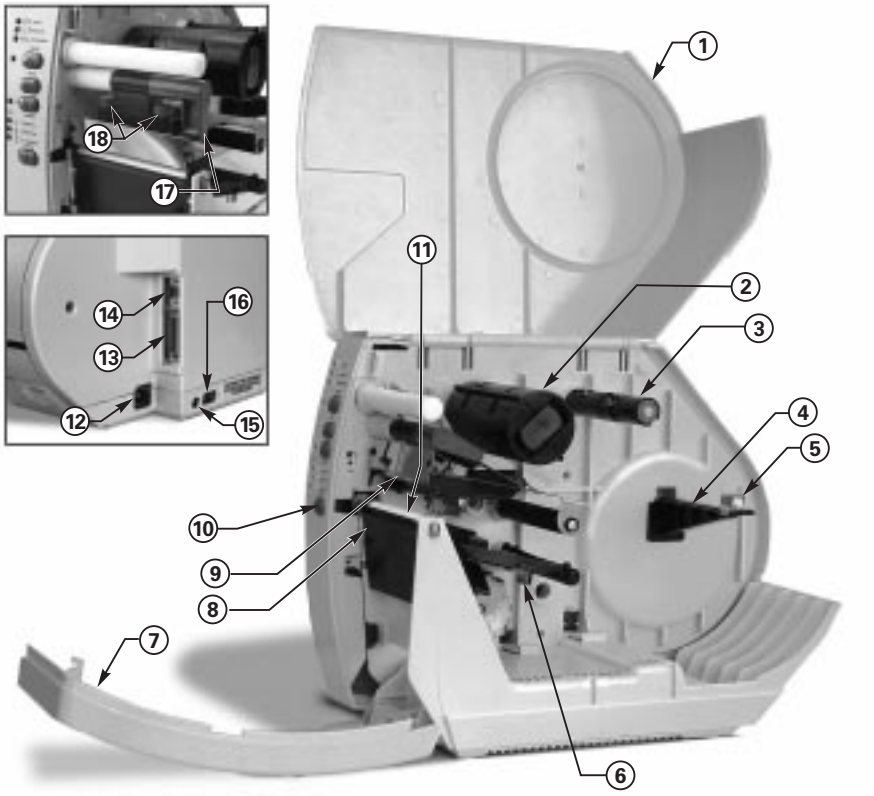



**Figure 3**

Printers like this (Figure 3) are equipped for Cutter mode. When in cutter mode, the printer automatically cuts the label after it is printed. Then, the cutter catch tray "catches" the label.

To load the media, refer to "Loading the Media -- Cutter Mode" in *Getting Ready to Print*.




**1** Media Access Cover
**2** Ribbon Take-up Spindle
**3** Ribbon Supply Spindle
**4** Media Supply Hanger
**5** Media Supply Guide
**6** Media Guide
**7** Front Cover
**8** Tear Plate
**9** Printhead
**10** Control Panel
**11** Platen Roller
**12** AC Power Cable Connection
**13** Parallel Interface
**14** Serial Interface
**15** Fuse
**16** Power On/Off Switch
**17** Head Open Lever
**18** Pressure Toggles

**Figure 4**

## AC Power Cable

The AC power cable has a three-prong female connector on one end (see Figure 5). This connector must be plugged into the mating connector on the left side of the printer. See Figure 6.

The connector at the other end of the AC power cable will be one of the following:

- US Standard 110 VAC three-prong plug
- Great Britain Standard 230 VAC three-prong plug
- European Standard 230 VAC three-prong plug
- Australian Standard 230 VAC three-prong plug

**WARNING!!! For personnel and equipment safety, always use a three-prong plug with an earth ground connection.**

Insure that the AC power on/off switch is in the "off" position before connecting the AC power cable to a nearby electrical outlet.

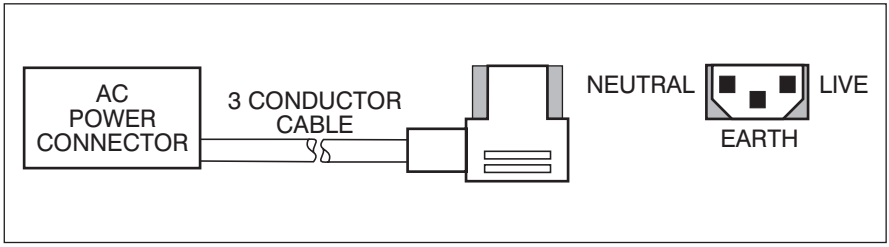



**Figure 5**

RS-232
(Serial)
Interface
Parallel
Interface
Power
On/Off
Switch
Fuse
AC Power Cable
Connection

**Figure 6**

# Loading the Media

Media widths and thicknesses vary between applications. To maintain print quality from one application to another, refer to "Print Quality Adjustments" in *Routine Care and Adjustments*.

**NOTE:** Zebra recommends using media that is outside wound (you can see the labels on the outside of the roll).

## Tear-Off Mode

1. Refer to Figure 7. Move the head open lever (a) counterclockwise to the open position to raise the printhead (b).
2. Slide the media guide (c) and the media supply guide (d) as far out from the printer frame as possible.

**If you are loading roll media in Tear-Off mode, follow steps 3-5. For loading fanfold media in Tear-Off mode, skip to step 6.**

3. Place the media roll on the media supply hanger (e), and thread the media through the printhead assembly as shown.

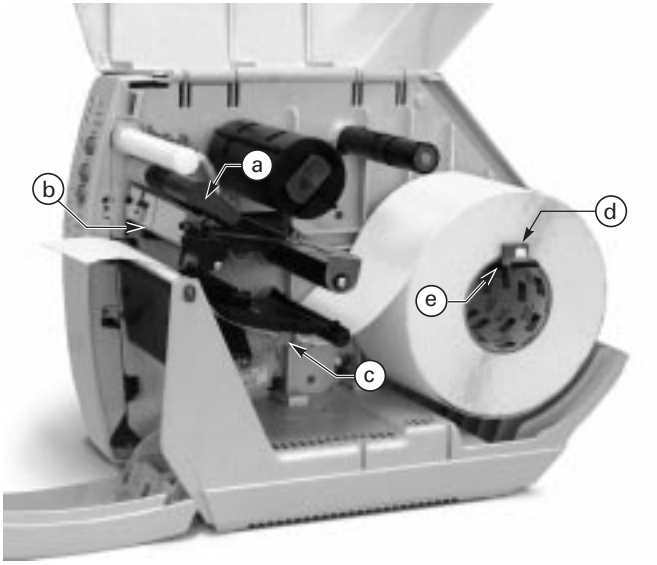



**Figure 7**

4. Adjust the media supply guide and the media guide against the outer edge of the media. *These guides must not cause pressure or excessive drag on the media.*
5. Close the head open lever, and see "Adjusting the Media Sensor" later in this chapter to adjust the media sensor position.

**For loading fanfold media:**

6. Refer to Figure 8. Make sure the fanfold media feeds through either the bottom (e) or rear (f) access slot.

**NOTE:** When utilizing the bottom access slot, be sure to thread media over the media supply hanger.

7. Thread the media through the printhead as shown in Figure 8.
8. Adjust the media supply guide and the media guide against the outer edge of the media. *These guides must not cause pressure or excessive drag on the media.*
9. Close the head open lever, and see "Adjusting the Media Sensor" later in this chapter to adjust the media sensor position.

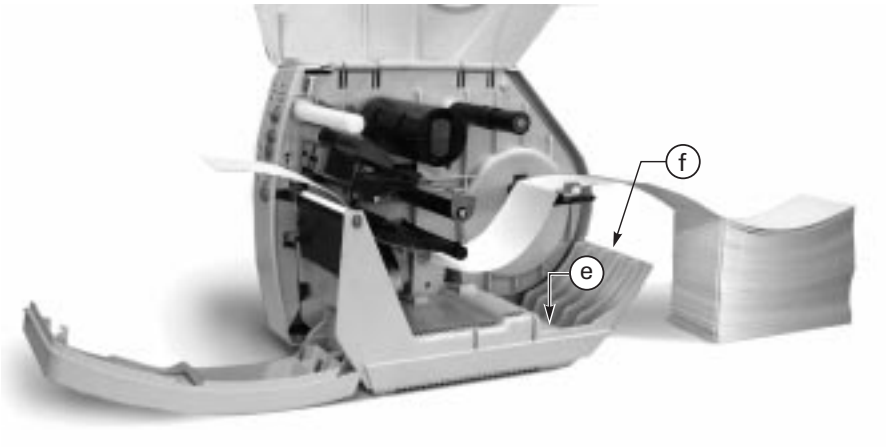



**Figure 8**

## Peel-Off Mode (Optional)

Refer to Figure 9 and follow the procedure below.

1. Slide the media supply guide (a), media guide (b), and the outer edge guides on both the platen guide rod (c) and the lower guide rod (d) as far out from the printer frame as possible.
2. Open the head open lever (e) to raise the printhead (f).
3. Remove the hold down hook (g).
4. Thread the media through the printhead as shown in Figure 9.
5. From the front of the printer, pull the media through the printhead until approximately 24" of media extends out from the printer. Remove the labels from the backing of the 24" of media that extends from the front of the printer.
6. Align the inside edge of the media with the edge guide mark (h) near the left side of the tear-off/peel-off plate, then close the head open lever. (See Figure 25 for a detailed illustration.)
7. Thread the label backing behind the lower label available sensor (i), through the slot under the rewind power roller (j), and below the lower guide rod (k) to the backing rewind spindle (l). Then, wind the backing material around the backing rewind spindle three or four times in a counterclockwise direction. To insure proper winding, press the edge of the backing material against the round plate at the far end of the spindle.

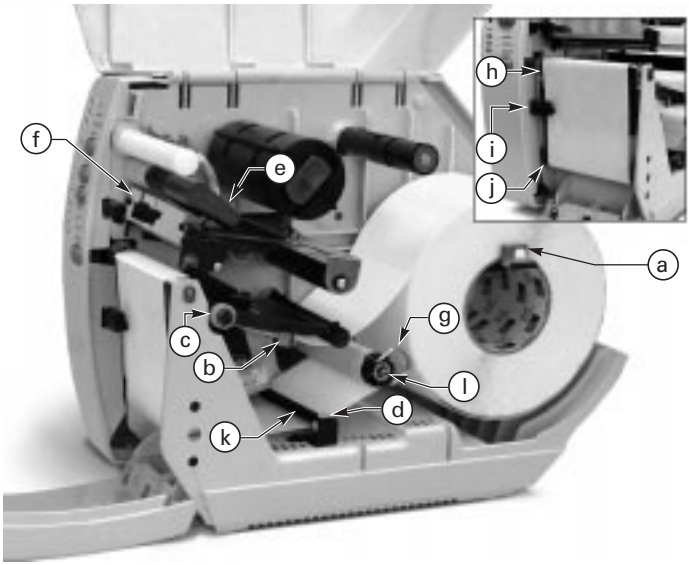



**Figure 9**

8. To hold the media against the spindle, place the hold down hook over the backing and insert both ends into the small slots in the round plate at the far end of the spindle. Again, rotate the backing rewind spindle counterclockwise to remove any slack in the backing material.
9. Adjust all of the guides:

- Push the media supply guide inward until it is just touching the outer side of the media supply roll, then lock the guide in place with its locking screw. *The guide must not cause pressure or excessive drag on the media supply roll.*
- Adjust the outer edge guides on both the lower guide rod and the platen guide rod until they just touch the outer edge of the media and backing without causing the material to buckle.
- Adjust the media guide until it just touches the outer edge of the media without causing the material to buckle.

10. See "Adjusting the Media Sensor" later in this chapter to adjust the media sensor.

**NOTE:** In the Peel-Off mode, proper media tracking is critical. Refer to the "Backing Rewind Power Roller Adjustment" in Routine Care and Adjustments to make sure that the media tracks properly through the printer.

### *Removing the Label Backing Material (Peel-Off Option Required)*

When the amount of backing wound on the backing rewind spindle reaches full capacity, the backing rewind spindle full sensor activates, the paper/ribbon light flashes, and printing pauses.

To remove the backing material, follow these steps (you don't need to power off the printer for this procedure):

1. Unwind about 24" of backing from the backing rewind spindle and cut it off at the spindle.
2. Pull out the hold down hook and slide the backing material off of the spindle and discard.
3. Feed the new starting edge of the backing through the mechanism and attach it to the backing rewind spindle as described in the loading procedure.

**NOTE:** While holding the media in position against the tear-off/peel-off plate, open and close the printhead without disturbing the media position. The printer is now ready to print more labels.

## Cutter Mode (Optional)

To insure proper media loading, follow the directions for the Tear-Off Mode with the exception that the end of the media must be positioned on top of the platen roller. See Figure 10.

With the end of the media positioned directly on top of the platen roller (a), close the head open lever. The printer will automatically calibrate, feed out, and cut the label when the printer is powered on or the printhead is opened and closed.

**NOTES:** The cutter only cuts if the printer is in cutter mode. Refer to the ZPL II Programming Guide or the label preparation software user's guide for instructions.

The cutter will cycle once at power up or reset (even when NOT in cutter mode).

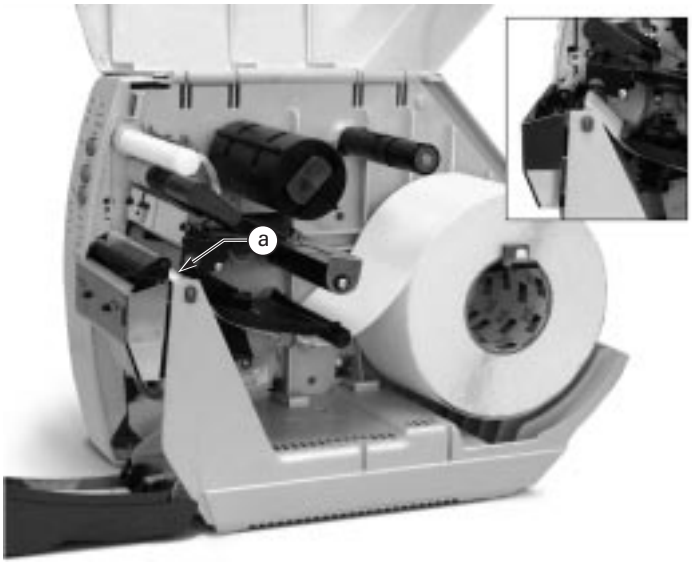



**Figure 10**

## Loading the Ribbon

Before you load the ribbon, make sure the ribbon supply spindle is adjusted properly.

### *Ribbon Supply Spindle: Normal Position*

In the normal position, the "dual-tension" ribbon supply spindle provides the desired amount of ribbon back tension for different ribbon widths.

To place the spindle in the normal position, firmly pull the spindle end cap (a) until it clicks into place, as shown in Figure 11.

### *Ribbon Supply Spindle: Low-Tension Position*

Low-tension position is used in limited applications to provide lower ribbon back tension. Low-tension position is only recommended when normal tension hampers the ribbon movement (for example, you will see scuffing or image breakup on the label).

To put the spindle in the low-tension position, firmly push the spindle end cap (a) until it clicks into place, as shown in Figure 11.

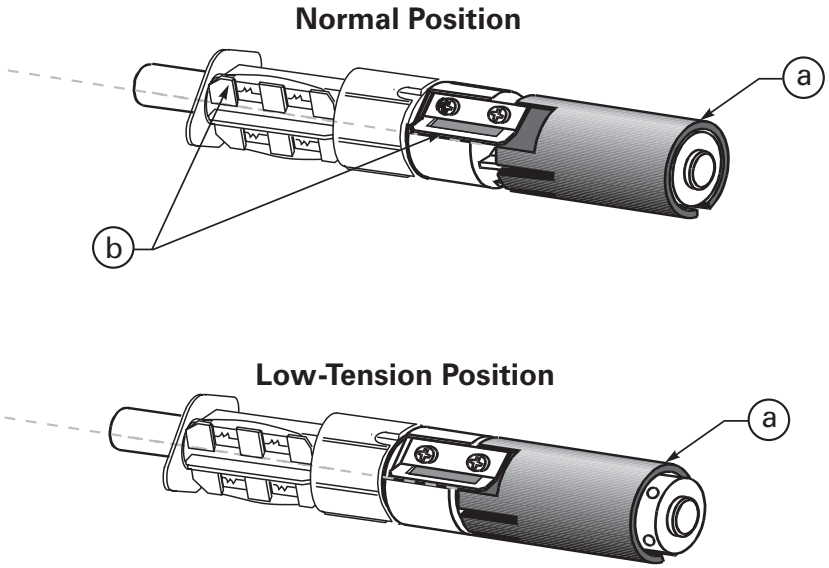



**Figure 11**

## Ribbon Loading Instructions

**NOTES:**

- *Zebra recommends the use of ribbon that is wider than the media. The smooth backing of the ribbon protects the printhead from wear and premature failure due to excessive abrasion. (For the direct thermal print method, ribbon is not used and should not be loaded in the printer.)*
- *Zebra recommends the use of ribbon that is outside wound (the ink side is on the outside of the roll).*

To load ribbon, see Figure 12 and follow the procedure below.

1. Adjust the ribbon supply spindle position for normal or low tension.
2. Align the blades (b) on the two sections of the spindle as shown in Figure 11. (You do not need to do this if your ribbon width is 2.4" [60 mm] or less.)
3. Place the ribbon roll on the ribbon supply spindle (a). Make sure the roll is pushed in to the stop at the end of the spindle.
4. Open the printhead by moving the head open lever (b) counterclockwise to the open position.
5. Thread the ribbon as shown. Wind the ribbon onto the ribbon takeup spindle (c) for several turns in a clockwise direction until wrinkles and creases disappear.
6. Close the printhead by moving the lever clockwise to the closed position.

## Ribbon Removal

Refer to Figure 12.

When it's time to change the ribbon, cut the ribbon where it is stretched between the upper ribbon guide arm and the takeup spindle. To remove ribbon from the takeup spindle, press the release button (d) and slide the ribbon off the spindle.

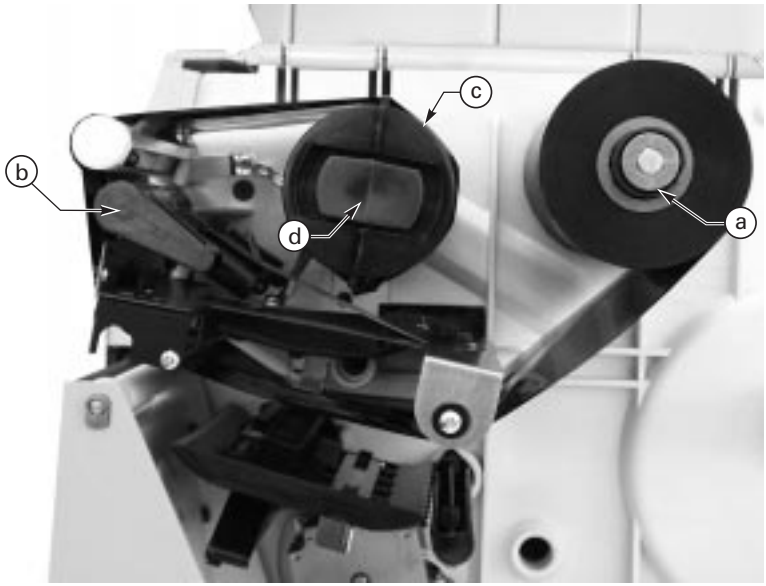



**Figure 12**

## Adjusting the Media Sensor

This adjustment aligns the position of the light sensor with the notch or edge of the label, so the printer can determine the correct label size.

See Figure 13. With the printhead open, look through the side of the print mechanism and locate the media sensor adjustment lever (a). Reposition the sensor until the top of the adjustment lever is in line with the notch or web in the media or the edge of the label. Close the printhead by moving the head open lever to the closed position.

When continuous media (no notch or opening to sense) is used, position the media sensor anywhere over the media so that an "out-of-media" condition will still be sensed.

### *Non-Continuous Media*

This type of media has some type of physical characteristic (web, notch, perforation, etc.) that indicates the start/end of each label.

The media sensor must be properly positioned to sense these indicators. See "Adjusting the Media Sensor" (above). Then, turn on the printer. If the printer will not auto calibrate, press the MODE button three times, and then the FEED button once, to manually calibrate (a label will print that shows the sensor profile).

### *Continuous Media*

Since continuous media does not contain label start/end indicators, you must tell the printer via software how long each label is. If you are using ZPL or ZPL II, include a Label Length (^LL) instruction in each label format you send to the printer (refer to your *ZPL II Programming Guide*). If you are using other software to operate your printer, refer to the instructions provided with that software.

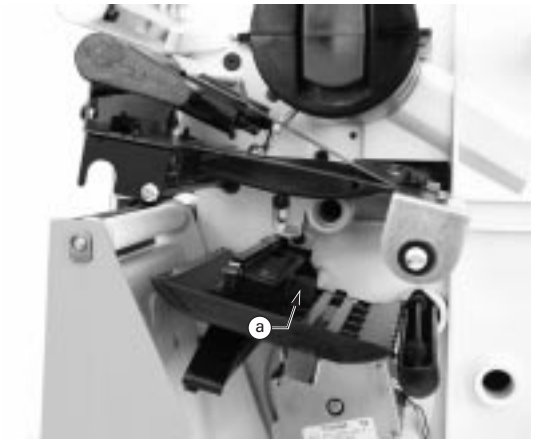



**Figure 13**

## Auto Calibration

This procedure occurs whenever the printer is turned on or the printhead is opened and closed. During this procedure, the printer automatically determines the media type, label length, media and ribbon sensor settings, and printing method (direct thermal or thermal transfer). This procedure is set at the factory but may be changed via ZPL II command.

**NOTE:** If the printer fails to auto calibrate when you are using pre-printed labels or pre-printed label backing, or if the printer will not auto calibrate, see "Manual Calibration" in Troubleshooting.

1. Load the media and ribbon (if used).
2. Turn on the printer power.
3. Two or three blank labels will feed, completing auto calibration.

## Operator Controls

### Front Panel Buttons

Refer to Figure 14.

#### *PAUSE Button*

- Starts and stops the printing process.
- The first time the button is pressed, any partially printed label is completed; then, the printing process is stopped.
- If the printer is idle when the button is pressed, no new print requests are printed until PAUSE is pressed again.

#### *FEED Button (also referred to as the UP button)*

- Forces the printer to feed one blank label.
- If the button is pressed when the printer is idle or paused, a blank label immediately feeds.
- When the button is pressed while the printer is printing, one blank label feeds *after* the completion of the current batch of labels.
- Once the blank label has been fed, pressing the button again will feed a second label.
- When in the configuration mode, functions as the UP button.

#### *CANCEL Button (also referred to as the DOWN button)*

- This button only functions when the printer is paused.

- If the button is pressed, the label format that is currently printing is canceled.
- If pressed when no label format is printing, then the next format to be printed is canceled.
- Press for at least three seconds to cancel all label formats the printer has received and return the printer to an idle state.
- When in the configuration mode, functions as the DOWN button.

### *MODE Button*

- Puts the printer into the configuration mode.
- Used to change print darkness and media position, and to calibrate the printer.

## Front Panel LEDs

Refer to Figure 14.

The front panel LEDs give you a quick indication of the printer's current status. During normal operation, the POWER LED is on and all other LEDs are off. For all other conditions, please refer to *Troubleshooting*.

**Now, you're ready to turn on the printer!**

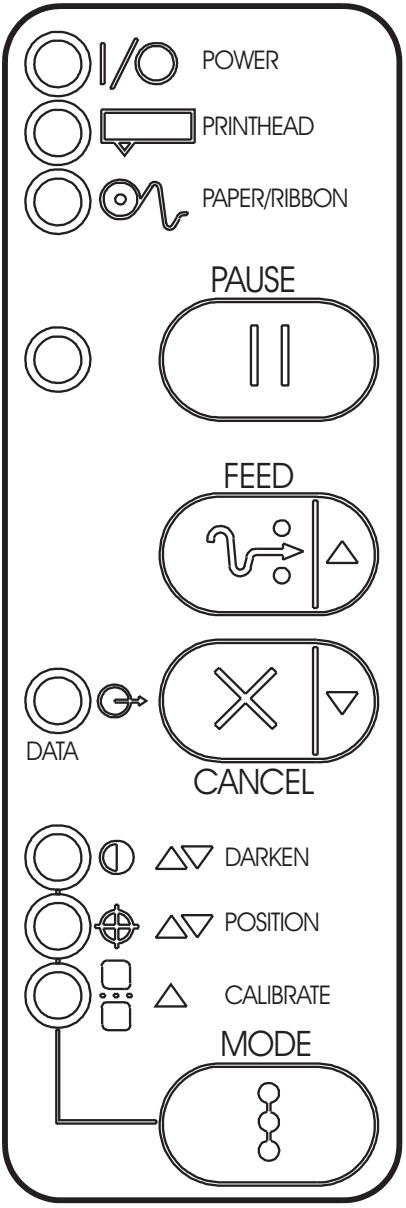



**Figure 14**

## AC Power ON/OFF Switch

This switch is located on the left side of the printer near the AC power cord and fuse (see Figure 6). The AC power switch should be turned off before connecting or disconnecting any cables.

Turning the switch on activates the printer and causes it to perform a Power ON Self Test, which can take up to 30 seconds, as it begins operation. Turning the printer power on while holding down certain front panel keys will activate additional printer self tests following the Power ON Self Test. See *Troubleshooting*.

External influences, such as lightning storms or unwanted noise on the power or data cables, may cause erratic printer behavior. Turning the AC power off and back on may re-establish proper printer operation. Otherwise, see *Troubleshooting*.

## Printing a Test Label

Before you connect the printer to your computer, make sure that the printer is in proper working order. You can do this by printing a configuration label (refer to the "CANCEL Key Self Test" in *Troubleshooting*.) If you can't get this label to print, refer to *Troubleshooting*.

To make print quality adjustments, refer to "Print Quality Adjustments" in *Routine Care and Adjustments*.

## Connecting the Printer and Computer

This printer comes with both a nine-pin Electronics Industries Association (EIA) RS-232 serial data interface and an IEEE 1284 bi-directional parallel data interface. In either case, you must supply the required interface cable for your application.

***CAUTION: This printer complies with FCC "Rules and Regulations," Part 15, for Class B Equipment, using fully shielded six-foot data cables. Use of longer cables or unshielded cables may increase radiated emissions above the Class B limits.***

### RS-232 Interface Requirements

Refer to Figure 6.

The required cable must have a 9-pin "D" type (DB-9P) connector (male) on one end, which is plugged into the mating (DB-9S) connector (female) located inside the access opening on the left side of the printer.

The other end of the signal interface cable connects to a serial port at the host computer. This cable will be one of two types -- standard or null modem -- depending on the specific interface requirements.

For pinout information, as well as information on how to interconnect to either a DTE or DCE device, refer to the *Appendix*.

### Parallel Interface Requirements

Refer to Figure 6.

An IEEE 1284 compatible bi-directional parallel data cable is required when this communication method is selected. The required cable must have a standard 36-pin parallel connector on one end, which is plugged into the mating connector located inside the access opening on the left side of the printer. The parallel interface cable is connected using bail clips instead of screws.

The other end of the parallel interface cable connects to the printer connector at the host computer.

For pinout information, refer to the *Appendix*.

### Serial and Parallel Cabling Requirements

Data cables must be fully shielded and fitted with metal or metallized connector shells. Shielded cables and connectors are required to prevent radiation and reception of electrical noise.

To minimize electrical noise pickup in the cable:

1. Keep data cables as short as possible.
2. Do not bundle the data cables tightly with power cords.
3. Do not tie the data cables to power wire conduits.

## Communicating with the Printer

### Via the Parallel Port

- Set the parallel connection on the host computer. For instructions, refer to your computer's user's guide.

### Via the Serial Port

- Set the host computer to the factory defaults of the printer: 9600 baud, 8 bit word length, no parity, 1 stop bit, and XON/XOFF. For instructions, refer to your computer's user's guide.

**NOTE:** If you can't reset the host computer communications settings, then you must establish a temporary parallel connection to send down the Set Communications (^SC) command that changes the printer's settings to match the host settings.

**DEFAULTING THE PRINTER:** To reset *only* the communications parameters on the printer to the factory defaults (9600 baud, 8 bit word

length, no parity, 1 stop bit, and XON/XOFF), press and hold the PAUSE, FEED, and MODE buttons while turning on the printer, then release the buttons when the CALIBRATE LED goes out. All of the LEDs will go on, while the DARKEN, POSITION, and CALIBRATE LEDs will flash. Press and hold the MODE button until all of the lights go out, then release the MODE button. The factory defaults have now been reset. Next, set the communications parameters on your computer to match this.

**NOTE:** To save the default settings, press the MODE button four times. Otherwise, the previous settings will be restored the next time the printer is turned on.

**AUTOBAUD:** To automatically detect the communications parameters, press and hold the PAUSE, FEED, and MODE buttons while turning on the printer, then release the buttons when the CALIBRATE LED goes out. All of the LEDs will go on, while DARKEN, POSITION, and CALIBRATE LEDs will flash. Send a label format using the host computer settings. If the printer accepts the host parameters, all of the LEDs will go off (except for the POWER LED) and the printer will restart with the host communication settings. If the printer *does not* accept the host communications parameters, the printer will not restart and the LEDs will flash on and off. If this should happen, turn the printer off and then on, and try again.

**NOTES:** Label formats sent to the printer at this time only help the printer determine the host settings. No label will print until settings are recognized.

In order for autobaud to work, your label *must* start with either a ^XA or ~XA ZPL II command. If all the LEDs are on, send another label format.

Save the new communication settings by pressing MODE four times.

Autobaud only works for 9600 baud and higher.

**^SC:** Use the Set Communications (^SC) command to change the communications settings on the printer. 1) With the host computer set at the same communications settings as the printer, send the ^SC command to change the printer to the desired settings. 2) Then, change the host computer settings to match the printer settings.

## Setting Up the Software

In order to create labels, you must decide whether you will use ZPL II or commercial label preparation software. To use ZPL II, refer to the *ZPL II Programming Guide*. If you choose to use a label preparation software, follow the installation instructions included in the package.

# Routine Care and Adjustments

## Cleaning

***CAUTION: Use only the cleaning agents indicated below. Zebra Technologies Corporation will not be responsible for any other products being used on this printer. No lubricants are needed.***

The following table provides a brief cleaning schedule. Specific cleaning procedures are provided on the following pages. Cleaning swabs saturated with 70% isopropyl alcohol are available from your distributor as a preventive maintenance kit.

Refer to Figure 15 for cleaning locations.

| Area | | Method | Interval |
|---|---|---|---|
| Printhead (a) | | Alcohol | After every roll of media (or 500 feet of fanfold media) when printing in the direct thermal mode.<br><br>After every roll of ribbon when printing in the thermal transfer mode. |
| Platen roller (b) | | Alcohol | |
| Media sensor (c) | | Air blow | |
| Media path (d) | | Alcohol | |
| Ribbon path (e) | | Air blow | |
| Upper guide rod (f) (Peel-Off) | | Alcohol | |
| Platen guide rod (g) (Peel-Off) | | Alcohol | |
| Rewind power roller (h) (Peel-Off) | | Alcohol | |
| Lower guide rod (i) (Peel-Off) | | Alcohol | |
| Cutter Assembly (j) (if used) | Cutting continuous, pressure-sensitive media | Citrus based adhesive remover | After every roll of media or more often, depending upon your application and media. |
| | Cutting tagstock or label backing material only | Alcohol and air blow | After every 2 or 3 rolls of media. |
| Tear-Off/Peel-Off plate (k) | | Alcohol | Once a month. |
| Label available sensor (l) | | Air blow | Once every six months. |

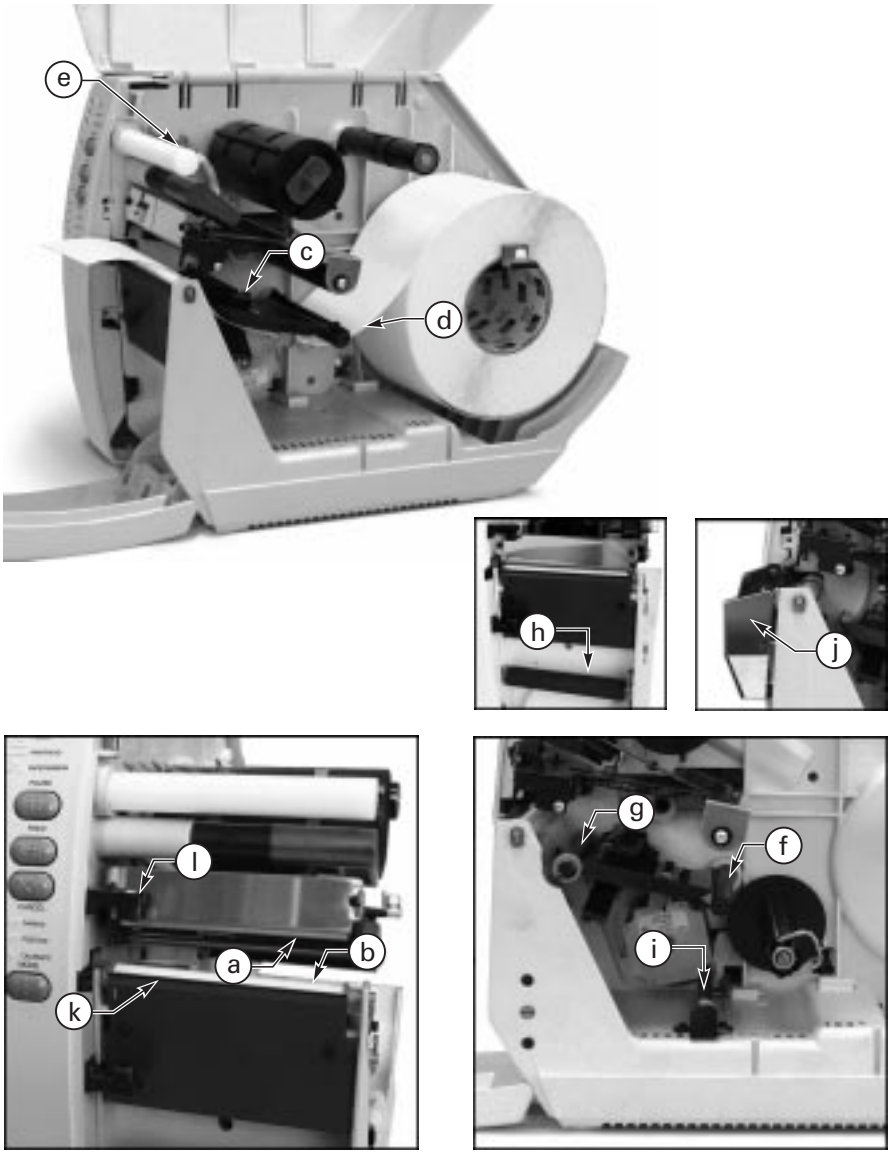



**Figure 15**

## Cleaning the Exterior

The exterior surfaces of the printer may be cleaned with a lint-free cloth. Do not use harsh or abrasive cleaning agents or solvents. If necessary, a mild detergent solution or desktop cleaner may be used sparingly.

## Cleaning the Interior

Remove any accumulated dirt and lint from the interior of the printer using a soft bristle brush and/or vacuum cleaner. Inspect this area after every roll of media.

## Cleaning the Printhead and Platen Roller

Inconsistent print quality, such as voids in the bar code or graphics, may indicate a dirty printhead. For optimum performance, perform the following cleaning procedure after every roll of ribbon.

**NOTE:** It is not necessary to turn the printer off before cleaning the printhead. If power is turned off, all label formats and images, as well as any temporarily saved parameter settings stored in the printer's DRAM memory, will be lost. When power is turned back on, it will be necessary to reload these items.

To clean the printhead, refer to Figure 16 and follow these steps:

1. Open the media access cover and the front cover (see Figure 4).

**Figure 16**

2. Open the printhead (a) by moving the head open lever (b) to the open position.
3. Remove the media and ribbon (if present).
4. With a swab, wipe the print elements (c) from end to end (the print elements are the grayish/black strip just behind the chrome strip.) Allow a few seconds for the solvent to evaporate.
5. Rotate the platen roller (d) and clean thoroughly with alcohol.
6. Brush/vacuum any accumulated paper lint and dust away from the rollers and media sensors.
7. Reload ribbon and/or media, close and latch the printhead, close the front cover and the media access cover, and continue printing.

If print quality has not improved after performing this procedure, try cleaning the printhead with Save-a-Printhead cleaning film. This specially coated material removes contamination buildup without damaging the printhead. Call your authorized Zebra distributor for more information.

## Cleaning the Cutter Module (for Printers Equipped with the Optional Cutter)

The cutter module requires periodic cleaning to remove paper dust and gummed label residue. The procedure on the following pages should be performed by the operator according to the cleaning schedule table. However, depending on your application and media type, you may need to clean the cutter more or less frequently.

***NOTE:*** In the figures shown, media and ribbon have been removed for clarity. It is not necessary to remove media or ribbon before performing the maintenance procedures described.

**IMPORTANT:** Do not exchange cutter modules between different printers. The cutter module adjustments are optimized during installation to work with a particular printer and may not perform correctly if the module is placed on a different printer.

| **I. Removing the cutter module from the printer.** | |
|---|---|
| 1. | Turn off the printer's AC power. |
| 2. | See Figure 17. Remove the label catch tray (a) by lifting it up and away from the front of the cutter module (b). |
| 3. | Raise the printer's media access cover and lower the printer's front cover. |
| 4. | See Figure 18. Gently pull straight down on the cutter cable connector (a) to remove it from the mating socket on the cutter module. |
| 5. | Turn the cutter mounting screw (b) with a screwdriver or by hand in a counterclockwise direction until it is loose. |
| 6. | See Figure 19. Hold the cutter module as shown. Apply gentle upward pressure to the left and right ends while raising the cutter module up and away from the mounting posts (a). If necessary, rock the module side to side to loosen it. |

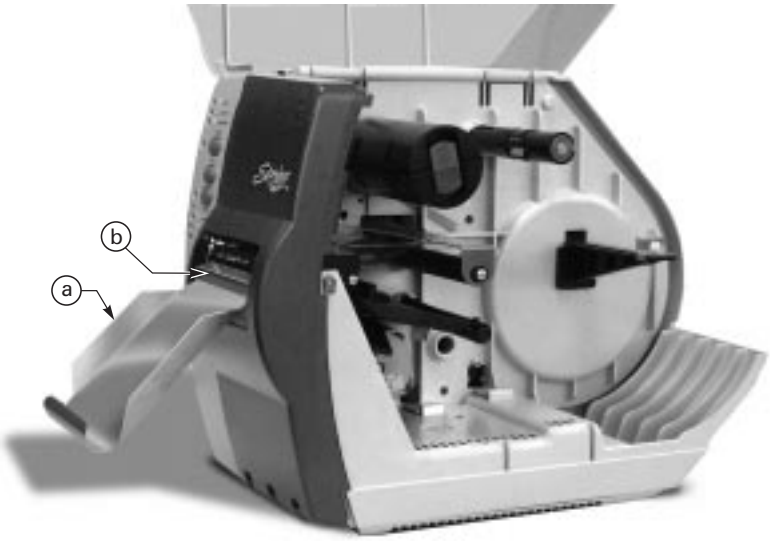



**Figure 17**

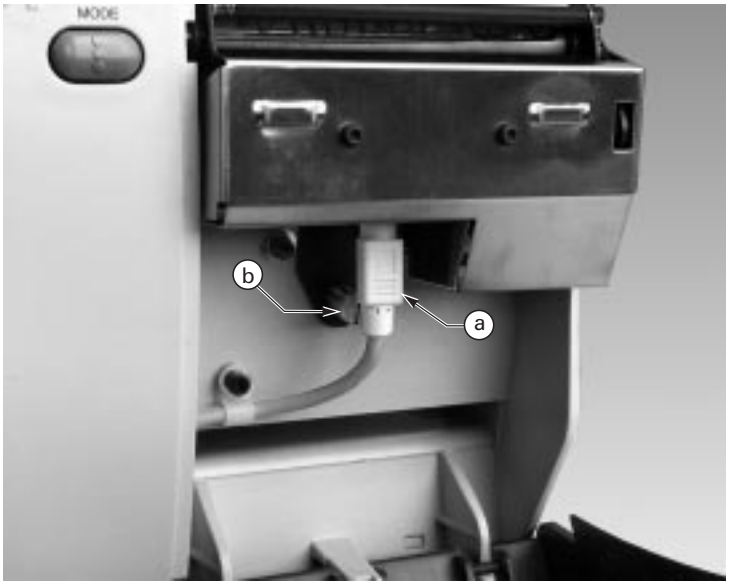



**Figure 18**

**Figure 19**

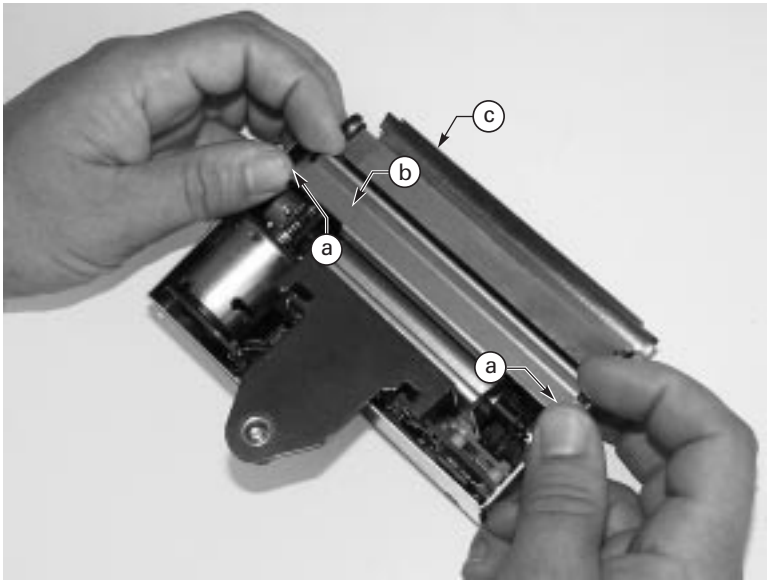



**Figure 20**

| **II. Disassembling the cutter module.** | |
|---|---|
| 1. | See Figure 20. Hold the cutter module as illustrated. Put your thumbs on the two wire spring loops (a) and your index fingers on the top of the rear cutter blade guard (b). It may help to lay the cutter module on a table or other surface throughout this process. |
| 2. | To remove the rear cutter blade guard, first press down simultaneously on the two wire spring loops. While pressing down on the loops, press the rear cutter blade guard back toward you and over the top of the loops. (You're trying to tuck the loops underneath the blade guard in this process.) |
| 3. | Continue pressing the rear cutter blade guard toward you and allow the back edge of the guard to pop up as the guard comes free from its holders. You may now remove the rear cutter blade guard by lifting it off of the module. ***NOTE:*** *The wire springs may flip up out of position during this process. Springs will be repositioned during reassembly.* |
| 4. | Observe the ends of the rear cutter blade guard and note the small metal pins protruding toward the inside. During the reassembly procedure, these pins will be mounted into the corresponding mounting slots in the cutter side panels. |
| 5. | To provide complete access to the area to be cleaned, raise the upper cutter blade guard (c) as shown in Figure 20. |

| **III. Cleaning the cutter module.** | |
|---|---|
| 1. | Remove any label material which has adhered to the cutter parts and use a small brush to remove any paper dust from the cutter module. |
| 2. | If you use pressure-sensitive media, use a lint-free cloth soaked in an adhesive remover to remove all gum and label residue from the cutting blades and guards.<br><br>If you use tag stock, use alcohol to remove any dirt. |

| **IV. Reassembling the cutter module.** | |
|---|---|
| 1. | See Figure 21. Position the two wire springs (a) down against the lower cutter blade. |
| 2. | Place the rear cutter blade guard (b) over the wire springs, perpendicular to its final position. Place your thumbs on the top (flat) part of the guard. ***NOTE:*** *Insure that the ends of the rear cutter blade guard are positioned on the outside of the cutter side panels.* |
| 3. | Press the rear cutter blade guard down and forward, rotating the guard as you proceed, to lock the mounting pins (c) into position in the cutter side panel mounting slots (d). Slide the guard forward until the two wire spring loops pop up on the back side of the Guard. ***NOTE:*** *Insure that the wire springs remain positioned under the rear cutter blade guard when assembly is completed.* |
| *4.* | Lower the upper cutter blade guard back to its normal position. When reassembled, the back of the cutter module should look like the one shown in Figure 22. |

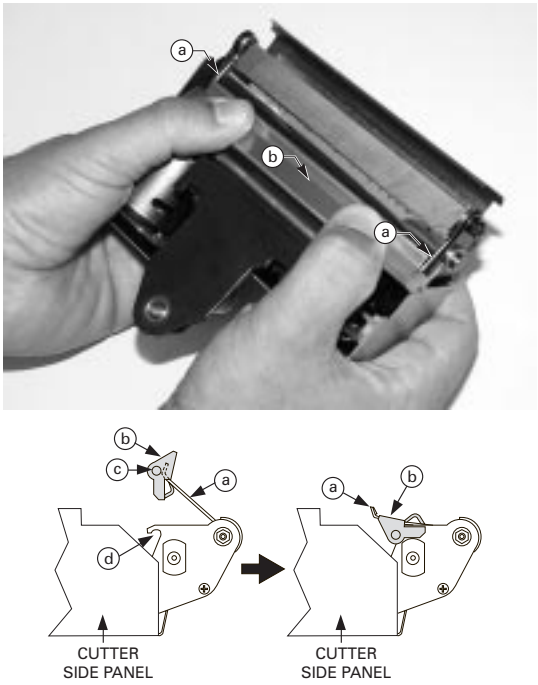



**Figure 21**

**Figure 22**

| **V. Reinstalling the cutter module.** | |
|---|---|
| *1.* | See Figure 19. Position the cutter module above the cutter mounting posts (a). Press down on the cutter module until the mounting slots (b) engage the mounting posts on the printer. |
| *2.* | See Figure 18. Tighten the mounting screw (b) in a clockwise direction to hold the cutter module in position. |
| *3.* | See Figure 18. Position the cutter cable connector (a) so the flat side of the connector faces away from the printer, then insert it up into the mating connector on the cutter module. |
| *4.* | Replace the cutter catch tray onto the two mounting posts located on the front of the cutter module. |

| **VI. Testing the Cutter Operation.** | |
|---|---|
| *1.* | If necessary, reload ribbon and label stock into the printer, then close the printer's front cover and media access cover.<br>***NOTE:*** *When loading media, make sure the end of the label is positioned on top of the platen roller, then close the printhead open lever.* |
| 2. | When the printer is turned on, the cutter module will cycle through one cutting operation and be ready to print labels. |
| 3. | OPTIONAL: Hold in the PAUSE button while turning on the printer's AC power. When the Power ON Self Test begins (all LEDs on), release the PAUSE button. When the Power ON Self Test ends, the printer will automatically print test labels that the cutter module will automatically cut. |
| **End of the cutter cleaning procedure.** | |

## Lubrication

**No lubricating agents of any kind are required on this printer.** Some commercially available lubricants will damage the finish if used.

## AC Power Fuse Replacement

A user-replaceable AC power fuse (see Figure 6) is located just to the left of the power on/off switch. For use with both voltage ranges, the replacement fuse is a 5x20 fast blow style rated at 5 Amp/250 VAC.

1. Before replacing the fuse, turn the AC power switch off and unplug the AC power cable.
2. To replace the fuse, insert the tip of a flathead screwdriver into the slot in the end of the fuse holder end cap.
3. Press in slightly on the end cap and turn the screwdriver slightly counterclockwise. This will disengage the end cap from the fuse holder and permit the removal of the fuse.
4. To install a new fuse, reverse the procedure.

# Mechanical Adjustments

This printer has been designed with minimal operator adjustments required.

## Print Quality Adjustments

When changing from one media/ribbon combination to another, only slight changes in print darkness or toggle pressure may be required. For these situations, refer to the toggle pressure adjustment in this chapter.

| **I. Checking the initial print quality.** | |
|---|---|
| 1. | Open the media access cover and front cover on the printer (see Figure 4). |
| 2. | Load the recommended media and ribbon for your application and adjust the media sensor position. |
| 3. | Send a label format to the printer or activate the PAUSE key self test (see *Troubleshooting*), print a few labels, and press the PAUSE button to stop printing. |
| 4. | Observe the print quality of the test labels. If it is satisfactory, exit the PAUSE key self test by pressing and holding the CANCEL button until the DATA LED goes off. Otherwise, continue to step II. |

| **II. Adjusting the print darkness (burn temperature).** | |
|---|---|
| 1. | Press the MODE button once (DARKEN and PAUSE LEDs turn on) to permit darkness adjustment. |
| 2. | Press the PAUSE button to begin printing test labels. |
| 3. | While observing the print darkness, repeatedly press the UP (FEED) button to make the printing darker, or the DOWN (CANCEL) button to make the printing lighter, until the desired darkness is achieved. |
| 4. | Briefly press the MODE button three times. The MODE LEDs will flash on and off to indicate that the settings have been saved in memory. |
| 5. | Press the PAUSE button to stop printing. |
| NOTE: To confirm the change, turn off the printer. Then, turn on the printer while holding the CANCEL button. | |

If you are still experiencing poor print quality, perform the following toggle pressure adjustment. Otherwise, exit the PAUSE key self test by pressing and holding the CANCEL button until the DATA LED goes off.

## Toggle Pressure Adjustment

The toggle assembly presses the printhead against the ribbon (if used), the media, and the platen.